

HOBBS OCD

ATS-12-1118

Form 3160-3
(March 2012)

FEB 13 2013

UNITED STATES
DEPARTMENT OF THE INTERIOR
RECEIVED BUREAU OF LAND MANAGEMENT

OCD Hobbs

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
NM-18848

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
SDE 19 FED 6H

9. API Well No.

10. Field and Pool, or Exploratory *Sand Dunes*
TRISTE DRAW, DELAWARE, WEST BS; 5

11. Sec., T. R. M. or Blk. and Survey or Area
SECTION 19, T. 23 S., R. 32 E.

1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator XTO ENERGY, INC.

3a. Address 200 N. LORAIN, SUITE 800
MIDLAND, TX. 797013b. Phone No. (include area code)
432-620-4323 (CHIP AMROCK)

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface 350 FNL & 400 FWL

At proposed prod. zone 350 FSL & 660 FWL

14. Distance in miles and direction from nearest town or post office*
21 MILES NORTHEAST OF MALAGA, NM

12. County or Parish
LEA

13. State
NM

15. Distance from proposed*
location to nearest 400' (SHL)
property or lease line, ft. 350' (BHL)
(Also to nearest drig. unit line, if any)

16. No. of acres in lease
1954.13

17. Spacing Unit dedicated to this well
160' 18S-08

18. Distance from proposed location*
to nearest well, drilling, completed, 700' (SHL)
applied for, on this lease, ft. 1650' (BHL)

19. Proposed Depth
TVD: 8283'
MD: 12,622'

20. BLM/BIA Bond No. on file
UTB000138

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3571' GL

22. Approximate date work will start*

23. Estimated duration
30 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification

6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature *Barry W. Hunt*
Title
PERMIT AGENT FOR XTO ENERGY, INC.

Name (Printed/Typed)
BARRY W. HUNT

Date
8/17/12

Approved by (Signature) */s/ Don Peterson*
Title

Name (Printed/Typed)

Date
FEB 13 2013

Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)
Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

FEB 14 2013

XTO ENERGY, INC.
DRILLING PLAN

HOBBS OCD

FEB 13 2013

RECEIVED

SDE 19 Federal 6H
SHL: 350 FNL & 400 FWL
Unit "D" Section 19, T. 23 S., R. 32 E.
BHL: 350 FSL & 660 FWL
Unit "M" Section 19, T. 23 S., R. 32 E.
Lea County, NM

1. The elevation of the unprepared ground is 3571 feet above sea level.
2. The geologic name of the surface formation is Quaternary - Alluvium.
3. A rotary rig will be utilized to drill the well to 12622' MD and run casing. This equipment will then be rigged down and the well will be completed with a workover rig.
4. Proposed total depth is MD: 12,622'/TVD: 8283'.
5. Estimated tops of important geologic markers:

Quaternary – Alluvium	Surface*
Rustler	973'
Top of Salt	1283'
Base of Salt	4338'
Base Castile	4576'
Bell Canyon	4593'
Cherry Canyon	5499'
Brushy Canyon	7201'
Basal Brushy Canyon	8151'
Brushy Canyon E3	8253'
Target Interval	8283'
Brushy Canyon E4	8305'
Brushy Canyon E5	8354'
TVD	8283' (150 degree F)

*Water at 180 ft.

6. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

Bell Canyon	Oil (2021 psi)
Cherry Canyon	Oil (2420 psi)
Brushy Canyon	Oil (3168 psi)
TVD	Oil (3645 psi)

7. CASING PROGRAM:

SEP 2A

Hole Size	Depth	OD Csg.	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 1000' 1020	13-3/8"	48#	STC	H-40	New	3.3	1.41	4.87
12-1/4"	0' - 4625' 4550	9-5/8"	40#	LTC	HCL-80	New	2.11	1.56	3.26
8-3/4"	0' - 8900'	7"	26#	LTC	HCP-110	New	2.25	1.76	2.18
6-1/8"	8500' - 12,622'	4-1/2"	11.6#	LTC	P-110	New	2.42	1.71	1.98

8. CEMENT PROGRAM: (Note yields and DV tool depths if multiple stages)

i. Surface Cement:

Lead Slurry: Lead with 580 sks ExtendaCem - CZ (13.7 ppg, 1.68 cu ft/sk, 8.72 gal wtr/sk)

Tail Slurry: Tail-in with 340 sks HalCem - C, 2 % Calcium Chloride - Flake (Accelerator)
(14.8 ppg, 1.35 cu ft/sk, 6.39 gal wtr/sk)

100% excess. Cement to surface.

ii. Intermediate Cement:

Lead Slurry: Lead with 1255 sks, EconoCem - HLC, 5 % Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive) (12.9 ppg, 1.88 ft³/sk, 9.61 gal wtr/sk)

Tail Slurry: Tail-in with 250 sks, HalCem - C (14.8 ppg, 1.33 cu ft/sk, 6.34 gal wtr/sk)

100% excess. Cement to surface.

iii. Production Cement:

1st stage: Lead Slurry: Lead with 140 sks, CorrosaCem - H, 0.4 % CFR-3 (Dispersant), 5 lbm/sk, Kol-Seal (Lost Circulation Additive), 0.25 lbm/sk D-AIR 5000 (Defoamer), 0.1 % H R-800 (Retarder) (14.4 ppg, 1.23 ft³/sk, 5.09 gal wtr/sk)

Tail Slurry: Tail-in with 255 sks, HalCem - H, 0.5 % LAP-1 (Low Fluid Loss Control), 0.25 % CFR-3 (Dispersant), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.25 lbm/sk D-AIR 5000 (Defoamer), 0.1 % HR-800 (Retarder) (15.8 ppg, 1.18 ft³/sk, 4.8 gal/sx wtr)

1st DV tool - 6650'.

2nd Stage: Lead Slurry: 205 sks EconoCem - H, 0.1 % HR-601 (Retarder) (12.90 ppg, yield: 1.86 ft³/sk, 9.96 Gal/sk wtr)

Tail Slurry: Tail-in with 100 sks HalCem - H (15.6 ppg, 1.19 ft³/sk, 5.39 gal/sx wtr)
50% excess. Cement tie back 200 feet inside 9-5/8" casing.

iv. **Liner Cement:**

Halliburton swell packers will be installed on the 4-1/2" casing

9. PRESSURE CONTROL EQUIPMENT:

The blow out preventer equipment (BOP) diagram is attached to this Drilling Plan. The blowout preventer stack for the intermediate and production hole will consist of a double ram blowout preventer and annular preventer rated to 5000 psi working pressure. All BOP's and accessory equipment will be tested according to Onshore Order #2 before drilling out. A hydraulic closing unit will be a part of this equipment and will be function tested daily.

10. PROPOSED MUD CIRCULATION SYSTEM:

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 1000' <i>1026</i>	17-1/2"	FW/Native	8.8 – 9.3	35-40	NC
1000' to 4625' <i>4550</i>	12-1/4"	Brine/ Gel Sweeps	9.8 – 10.0	30-32	NC
4625' to 8900'	8-3/4"	FW/Polymer Sweeps	8.8 – 9.4	29-32	NC-20
8900'-12,622'	6-1/8"	FW/Polymer Sweeps	8.8-9.4	29-32	NC-20

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine solution. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

11. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- i. A kelly cock will be in the drill string at all times.
- ii. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- iii. Hydrogen sulfide detection equipment and breathing equipment will be in operation from drilling out the 9-5/8" casing shoe until the 7" casing is cemented.

12. LOGGING, CORING AND TESTING PROGRAM:

- see COA*
- A. Potential drill stem tests will be based on geological sample shows.
 - B. No coring is anticipated.
 - C. Mudlogger unit will be on and working from 4625' to TD.
 - D. Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from TD to intermediate casing, with Neutron/Gamma continuing to surface.

13. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

No abnormal pressures are anticipated. Max bottom hole pressure should not exceed 3645 psi. BHT of 150° F is anticipated. No H₂S is expected but monitors will be in place to detect any H₂S occurrences. An H₂S contingency plan has also been submitted with this application. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. Should any abnormal or hazardous circumstances be encountered personnel on location will take necessary steps to ensure safety of all personnel and environment. BHP=3645. BHT=150 degrees.

14. SPECIAL INSTRUCTIONS:

- A. Reports will be filled out on the XTO Drilling Report form, and the Casing/Cementing Detail Forms provided.
- B. Deviation:
 - Surface Hole: Maximum of 1° and not more than 1° change per 100'.
 - Production Hole: Maximum of 4° and not more than 1.5° change per 100'.
 - Note: Maximum distance between surveys is 500'.**
- C. WOC a minimum of 18 hours or before cement gains compressive strength of 500 psi, whichever is greater, before drilling out shoe joint on surface casing string. Use minimal WOB and RPM until drill collars are below the shoe joints. *See COA*
- D. Check BOP blind rams each trip and pipe rams each day. Strap out of hole for logging and/or casing jobs.
- E. A trash trailer will be provided on each location. Keep trash picked up and the location as clean as possible. All drilling line, oil filters, etc. should be hauled away at the Drilling Contractor's expense. At the conclusion of drilling operations, the contents of the trash trailer will be disposed of into a commercial sanitary landfill.



Project: Lea County
Site: SDE Federal
Well: #6H
Wellbore: OH
Plan: Plan #1 (#6H/OH)

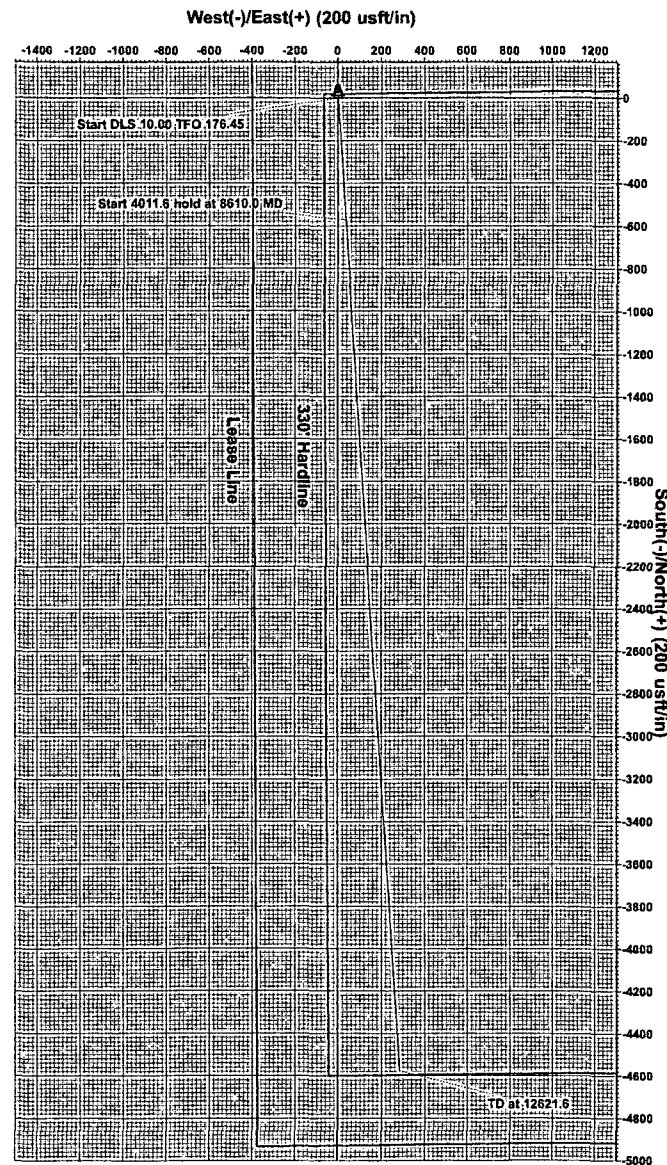
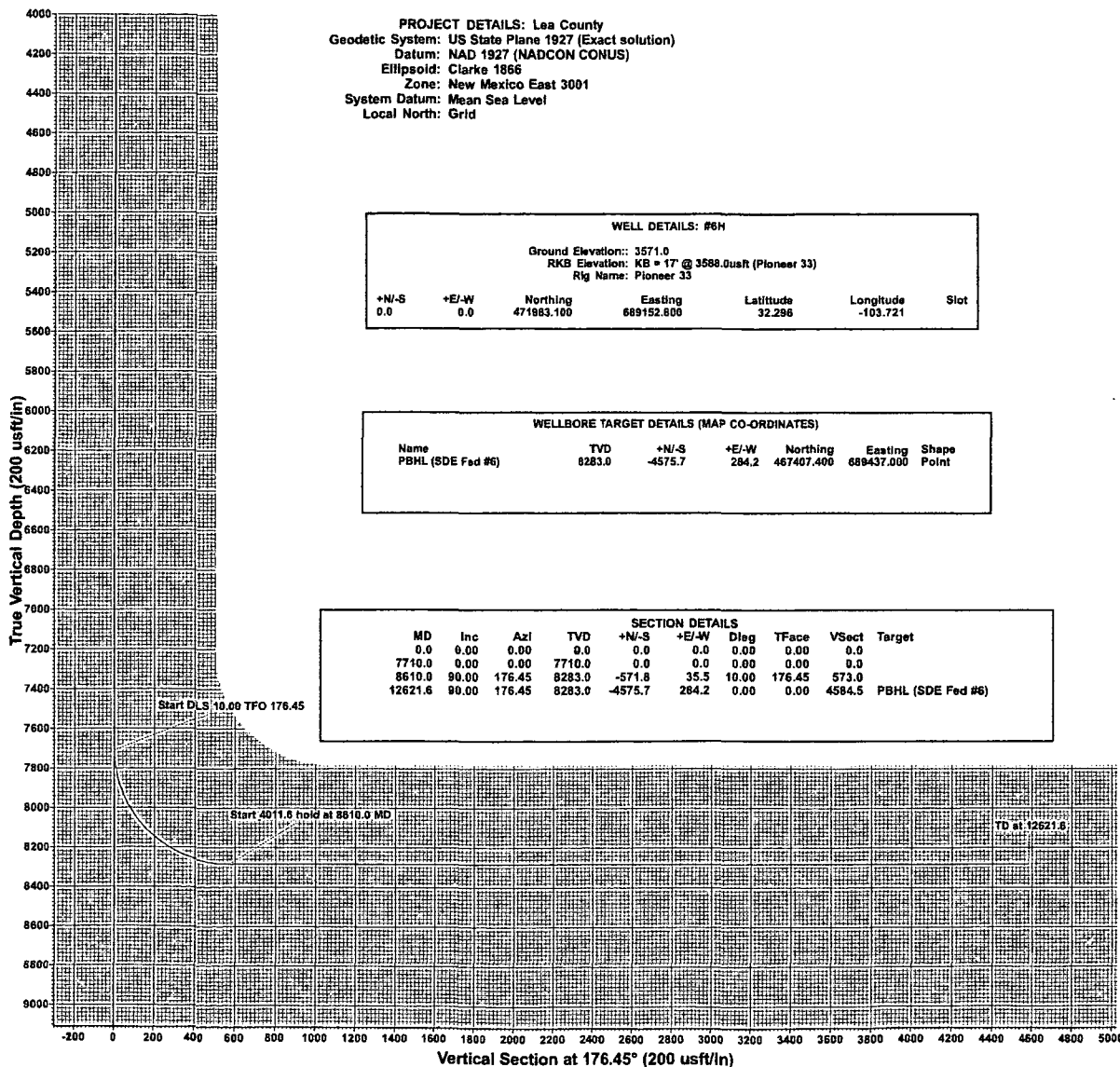


Azimuths to Grid North
True North: -0.33°
Magnetic North: 7.19°

Magnetic Field
Strength: 48572.7nT
Dip Angle: 60.23°
Date: 7/23/2012
Model: IGRF200510

PATHFINDER®

A Schlumberger Company



Plan: Plan #1 (#6H/OH)

Created By: Michael Trout Date: 12-11, July 25 2012

Checked: _____ Date: _____

Lea County Co.
Lea County
SDE Federal
#6H
Pioneer 33
Plan #1



XTO Energy Co

**Lea County
SDE Federal
#6H
OH**

Plan: Plan #1

PathfinderX & Y Report

27 July, 2012



A Schlumberger Company



Pathfinder
PathfinderX & Y Report



A Schlumberger Company

Company:	XTO Energy Co	Local Co-ordinate Reference:	Well #6H
Project:	Lea County	TVD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Site:	SDE Federal	MD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Project	Lea County		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	SDE Federal		
Site Position:		Northing:	472,685.800 usft
From:	Map	Easting:	689,408.900 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.298
		Longitude:	-103.720
		Grid Convergence:	0.33 °

Well		#6H				
Well Position	+N/-S	0.0 usft	Northing:	471,983.100 usft	Latitude:	32.296
	+E/-W	0.0 usft	Easting:	689,152.800 usft	Longitude:	-103.721
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,571.0 usft

Wellbore	OH					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength	
			(°)	(°)	(nT)	
	IGRF200510	7/23/2012	7.52	60.23	48,573	

Design	Plan #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	176.45	



Pathfinder
PathfinderX & Y Report



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Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Survey Tool Program		Date 7/23/2012			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	7,710.0	Plan #1 (OH)	Gyro	GYRO	
7,710.0	12,621.6	Plan #1 (OH)	MWD	MWD - Standard	

Planned Survey											
MD (usft)	Inc (")	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.0	0.00	0.00	0.0	-3,588.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
100.0	0.00	0.00	100.0	-3,488.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
200.0	0.00	0.00	200.0	-3,388.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
300.0	0.00	0.00	300.0	-3,288.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
400.0	0.00	0.00	400.0	-3,188.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
500.0	0.00	0.00	500.0	-3,088.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
600.0	0.00	0.00	600.0	-2,988.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
700.0	0.00	0.00	700.0	-2,888.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
800.0	0.00	0.00	800.0	-2,788.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
900.0	0.00	0.00	900.0	-2,688.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,000.0	0.00	0.00	1,000.0	-2,588.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,100.0	0.00	0.00	1,100.0	-2,488.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,200.0	0.00	0.00	1,200.0	-2,388.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,300.0	0.00	0.00	1,300.0	-2,288.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,400.0	0.00	0.00	1,400.0	-2,188.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,500.0	0.00	0.00	1,500.0	-2,088.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,600.0	0.00	0.00	1,600.0	-1,988.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,700.0	0.00	0.00	1,700.0	-1,888.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,800.0	0.00	0.00	1,800.0	-1,788.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
1,900.0	0.00	0.00	1,900.0	-1,688.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
2,000.0	0.00	0.00	2,000.0	-1,588.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	



Pathfinder
PathfinderX & Y Report



Company:	XTO Energy Co	Local Co-ordinate Reference:	Well #6H
Project:	Lea County	TVD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Site:	SDE Federal	MD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,100.0	0.00	0.00	2,100.0	-1,488.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,200.0	0.00	0.00	2,200.0	-1,388.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,300.0	0.00	0.00	2,300.0	-1,288.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,400.0	0.00	0.00	2,400.0	-1,188.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,500.0	0.00	0.00	2,500.0	-1,088.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,600.0	0.00	0.00	2,600.0	-988.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,700.0	0.00	0.00	2,700.0	-888.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,800.0	0.00	0.00	2,800.0	-788.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
2,900.0	0.00	0.00	2,900.0	-688.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,000.0	0.00	0.00	3,000.0	-588.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,100.0	0.00	0.00	3,100.0	-488.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,200.0	0.00	0.00	3,200.0	-388.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,300.0	0.00	0.00	3,300.0	-288.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,400.0	0.00	0.00	3,400.0	-188.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,500.0	0.00	0.00	3,500.0	-88.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,600.0	0.00	0.00	3,600.0	12.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,700.0	0.00	0.00	3,700.0	112.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,800.0	0.00	0.00	3,800.0	212.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
3,900.0	0.00	0.00	3,900.0	312.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,000.0	0.00	0.00	4,000.0	412.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,100.0	0.00	0.00	4,100.0	512.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,200.0	0.00	0.00	4,200.0	612.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,300.0	0.00	0.00	4,300.0	712.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,400.0	0.00	0.00	4,400.0	812.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,500.0	0.00	0.00	4,500.0	912.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,600.0	0.00	0.00	4,600.0	1,012.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
4,700.0	0.00	0.00	4,700.0	1,112.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80



Pathfinder
PathfinderX & Y Report



A Schlumberger Company

Company:	XTO Energy Co	Local Co-ordinate Reference:	Well #6H
Project:	Lea County	TVD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Site:	SDE Federal	MD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
4,800.0	0.00	0.00	4,800.0	1,212.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
4,900.0	0.00	0.00	4,900.0	1,312.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,000.0	0.00	0.00	5,000.0	1,412.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,100.0	0.00	0.00	5,100.0	1,512.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,200.0	0.00	0.00	5,200.0	1,612.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,300.0	0.00	0.00	5,300.0	1,712.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,400.0	0.00	0.00	5,400.0	1,812.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,500.0	0.00	0.00	5,500.0	1,912.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,600.0	0.00	0.00	5,600.0	2,012.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,700.0	0.00	0.00	5,700.0	2,112.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,800.0	0.00	0.00	5,800.0	2,212.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
5,900.0	0.00	0.00	5,900.0	2,312.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,000.0	0.00	0.00	6,000.0	2,412.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,100.0	0.00	0.00	6,100.0	2,512.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,200.0	0.00	0.00	6,200.0	2,612.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,300.0	0.00	0.00	6,300.0	2,712.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,400.0	0.00	0.00	6,400.0	2,812.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,500.0	0.00	0.00	6,500.0	2,912.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,600.0	0.00	0.00	6,600.0	3,012.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,700.0	0.00	0.00	6,700.0	3,112.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,800.0	0.00	0.00	6,800.0	3,212.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
6,900.0	0.00	0.00	6,900.0	3,312.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
7,000.0	0.00	0.00	7,000.0	3,412.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
7,100.0	0.00	0.00	7,100.0	3,512.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
7,200.0	0.00	0.00	7,200.0	3,612.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
7,300.0	0.00	0.00	7,300.0	3,712.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	
7,400.0	0.00	0.00	7,400.0	3,812.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80	



Pathfinder
PathfinderX & Y Report



Company: XTO Energy Co
Project: Lea County
Site: SDE Federal
Well: #6H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #6H
TVD Reference: KB = 17' @ 3588.0usft (Pioneer 33)
MD Reference: KB = 17' @ 3588.0usft (Pioneer 33)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,500.0	0.00	0.00	7,500.0	3,912.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
7,600.0	0.00	0.00	7,600.0	4,012.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
7,710.0	0.00	0.00	7,710.0	4,122.0	0.0	0.0	0.0	0.00	471,983.10	689,152.80
7,750.0	4.00	176.45	7,750.0	4,162.0	-1.4	0.1	1.4	10.00	471,981.71	689,152.89
7,800.0	9.00	176.45	7,799.6	4,211.6	-7.0	0.4	7.1	10.00	471,976.06	689,153.24
7,850.0	14.00	176.45	7,848.6	4,260.6	-17.0	1.1	17.0	10.00	471,966.11	689,153.86
7,900.0	19.00	176.45	7,896.5	4,308.5	-31.2	1.9	31.2	10.00	471,951.94	689,154.74
7,950.0	24.00	176.45	7,943.0	4,355.0	-49.4	3.1	49.5	10.00	471,933.66	689,155.87
8,000.0	29.00	176.45	7,987.8	4,399.8	-71.7	4.5	71.8	10.00	471,911.40	689,157.25
8,050.0	34.00	176.45	8,030.4	4,442.4	-97.8	6.1	98.0	10.00	471,885.33	689,158.87
8,100.0	39.00	176.45	8,070.6	4,482.6	-127.4	7.9	127.7	10.00	471,855.66	689,160.72
8,150.0	44.00	176.45	8,108.0	4,520.0	-160.5	10.0	160.8	10.00	471,822.60	689,162.77
8,200.0	49.00	176.45	8,142.4	4,554.4	-196.7	12.2	197.1	10.00	471,786.42	689,165.02
8,250.0	54.00	176.45	8,173.5	4,585.5	-235.7	14.6	236.2	10.00	471,747.37	689,167.44
8,300.0	59.00	176.45	8,201.1	4,613.1	-277.3	17.2	277.9	10.00	471,705.77	689,170.03
8,350.0	64.00	176.45	8,225.0	4,637.0	-321.2	19.9	321.8	10.00	471,661.93	689,172.75
8,400.0	69.00	176.45	8,244.9	4,656.9	-366.9	22.8	367.6	10.00	471,616.18	689,175.59
8,450.0	74.00	176.45	8,260.8	4,672.8	-414.2	25.7	415.0	10.00	471,568.87	689,178.53
8,500.0	79.00	176.45	8,272.4	4,684.4	-462.7	28.7	463.6	10.00	471,520.36	689,181.54
8,550.0	84.00	176.45	8,279.8	4,691.8	-512.1	31.8	513.1	10.00	471,471.02	689,184.61
8,600.0	89.00	176.45	8,282.9	4,694.9	-561.9	34.9	563.0	10.00	471,421.22	689,187.70
8,610.0	90.00	176.45	8,283.0	4,695.0	-571.8	35.5	573.0	10.00	471,411.25	689,188.32
8,700.0	90.00	176.45	8,283.0	4,695.0	-661.7	41.1	663.0	0.00	471,321.42	689,193.90
8,800.0	90.00	176.45	8,283.0	4,695.0	-761.5	47.3	763.0	0.00	471,221.61	689,200.10
8,900.0	90.00	176.45	8,283.0	4,695.0	-861.3	53.5	863.0	0.00	471,121.80	689,206.30
9,000.0	90.00	176.45	8,283.0	4,695.0	-961.1	59.7	963.0	0.00	471,021.99	689,212.49
9,100.0	90.00	176.45	8,283.0	4,695.0	-1,060.9	65.9	1,063.0	0.00	470,922.19	689,218.69



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company:	XTO Energy Co	Local Co-ordinate Reference:	Well #6H
Project:	Lea County	TVD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Site:	SDE Federal	MD Reference:	KB = 17' @ 3588.0usft (Pioneer 33)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,200.0	90.00	176.45	8,283.0	4,695.0	-1,160.7	72.1	1,163.0	0.00	470,822.38	689,224.89	
9,300.0	90.00	176.45	8,283.0	4,695.0	-1,260.5	78.3	1,263.0	0.00	470,722.57	689,231.09	
9,400.0	90.00	176.45	8,283.0	4,695.0	-1,360.3	84.5	1,363.0	0.00	470,622.76	689,237.29	
9,500.0	90.00	176.45	8,283.0	4,695.0	-1,460.1	90.7	1,463.0	0.00	470,522.96	689,243.49	
9,600.0	90.00	176.45	8,283.0	4,695.0	-1,560.0	96.9	1,563.0	0.00	470,423.15	689,249.69	
9,700.0	90.00	176.45	8,283.0	4,695.0	-1,659.8	103.1	1,663.0	0.00	470,323.34	689,255.89	
9,800.0	90.00	176.45	8,283.0	4,695.0	-1,759.6	109.3	1,763.0	0.00	470,223.53	689,262.09	
9,900.0	90.00	176.45	8,283.0	4,695.0	-1,859.4	115.5	1,863.0	0.00	470,123.73	689,268.29	
10,000.0	90.00	176.45	8,283.0	4,695.0	-1,959.2	121.7	1,963.0	0.00	470,023.92	689,274.49	
10,100.0	90.00	176.45	8,283.0	4,695.0	-2,059.0	127.9	2,063.0	0.00	469,924.11	689,280.69	
10,200.0	90.00	176.45	8,283.0	4,695.0	-2,158.8	134.1	2,163.0	0.00	469,824.30	689,286.88	
10,300.0	90.00	176.45	8,283.0	4,695.0	-2,258.6	140.3	2,263.0	0.00	469,724.49	689,293.08	
10,400.0	90.00	176.45	8,283.0	4,695.0	-2,358.4	146.5	2,363.0	0.00	469,624.69	689,299.28	
10,500.0	90.00	176.45	8,283.0	4,695.0	-2,458.2	152.7	2,463.0	0.00	469,524.88	689,305.48	
10,600.0	90.00	176.45	8,283.0	4,695.0	-2,558.0	158.9	2,563.0	0.00	469,425.07	689,311.68	
10,700.0	90.00	176.45	8,283.0	4,695.0	-2,657.8	165.1	2,663.0	0.00	469,325.26	689,317.88	
10,800.0	90.00	176.45	8,283.0	4,695.0	-2,757.6	171.3	2,763.0	0.00	469,225.46	689,324.08	
10,900.0	90.00	176.45	8,283.0	4,695.0	-2,857.5	177.5	2,863.0	0.00	469,125.65	689,330.28	
11,000.0	90.00	176.45	8,283.0	4,695.0	-2,957.3	183.7	2,963.0	0.00	469,025.84	689,336.48	
11,100.0	90.00	176.45	8,283.0	4,695.0	-3,057.1	189.9	3,063.0	0.00	468,926.03	689,342.68	
11,200.0	90.00	176.45	8,283.0	4,695.0	-3,156.9	196.1	3,163.0	0.00	468,826.23	689,348.88	
11,300.0	90.00	176.45	8,283.0	4,695.0	-3,256.7	202.3	3,263.0	0.00	468,726.42	689,355.07	
11,400.0	90.00	176.45	8,283.0	4,695.0	-3,356.5	208.5	3,363.0	0.00	468,626.61	689,361.27	
11,500.0	90.00	176.45	8,283.0	4,695.0	-3,456.3	214.7	3,463.0	0.00	468,526.80	689,367.47	
11,600.0	90.00	176.45	8,283.0	4,695.0	-3,556.1	220.9	3,563.0	0.00	468,426.99	689,373.67	
11,700.0	90.00	176.45	8,283.0	4,695.0	-3,655.9	227.1	3,663.0	0.00	468,327.19	689,379.87	
11,800.0	90.00	176.45	8,283.0	4,695.0	-3,755.7	233.3	3,763.0	0.00	468,227.38	689,386.07	



Pathfinder
PathfinderX & Y Report



A Schlumberger Company

Company: XTO Energy Co
Project: Lea County
Site: SDE Federal
Well: #6H
Wellbore: OH
Design: Plan #1

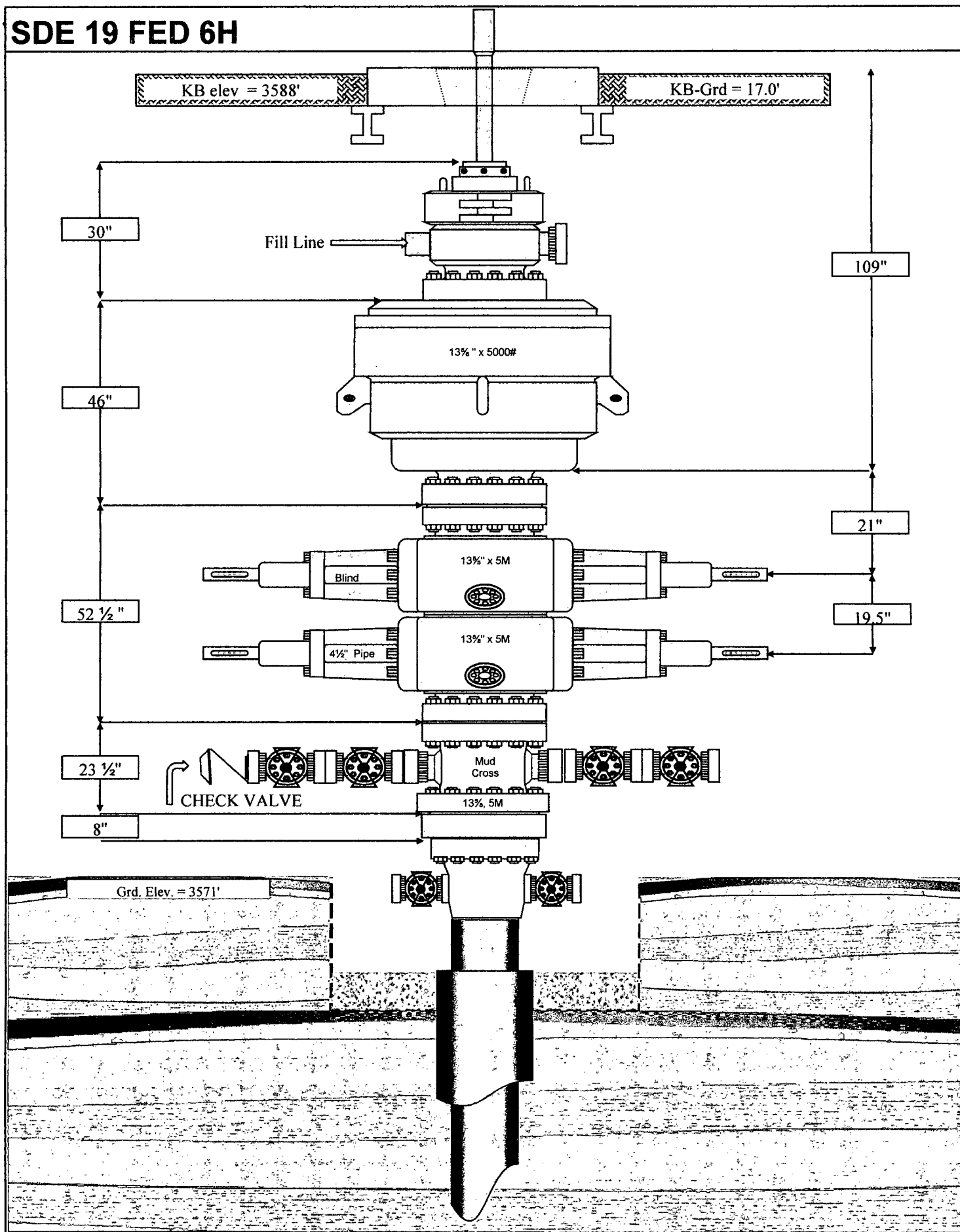
Local Co-ordinate Reference: Well #6H
TVD Reference: KB = 17' @ 3588.0usft (Pioneer 33)
MD Reference: KB = 17' @ 3588.0usft (Pioneer 33)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,900.0	90.00	176.45	8,283.0	4,695.0	-3,855.5	239.5	3,863.0	0.00	468,127.57	689,392.27
12,000.0	90.00	176.45	8,283.0	4,695.0	-3,955.3	245.7	3,963.0	0.00	468,027.76	689,398.47
12,100.0	90.00	176.45	8,283.0	4,695.0	-4,055.1	251.9	4,063.0	0.00	467,927.96	689,404.67
12,200.0	90.00	176.45	8,283.0	4,695.0	-4,155.0	258.1	4,163.0	0.00	467,828.15	689,410.87
12,300.0	90.00	176.45	8,283.0	4,695.0	-4,254.8	264.3	4,263.0	0.00	467,728.34	689,417.07
12,400.0	90.00	176.45	8,283.0	4,695.0	-4,354.6	270.5	4,363.0	0.00	467,628.53	689,423.27
12,500.0	90.00	176.45	8,283.0	4,695.0	-4,454.4	276.7	4,463.0	0.00	467,528.73	689,429.46
12,600.0	90.00	176.45	8,283.0	4,695.0	-4,554.2	282.9	4,563.0	0.00	467,428.92	689,435.66
12,621.6	90.00	176.45	8,283.0	4,695.0	-4,575.7	284.2	4,584.5	0.00	467,407.40	689,437.00

Checked By: _____ Approved By: _____ Date: _____

SDE 19 FED 6H



Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram

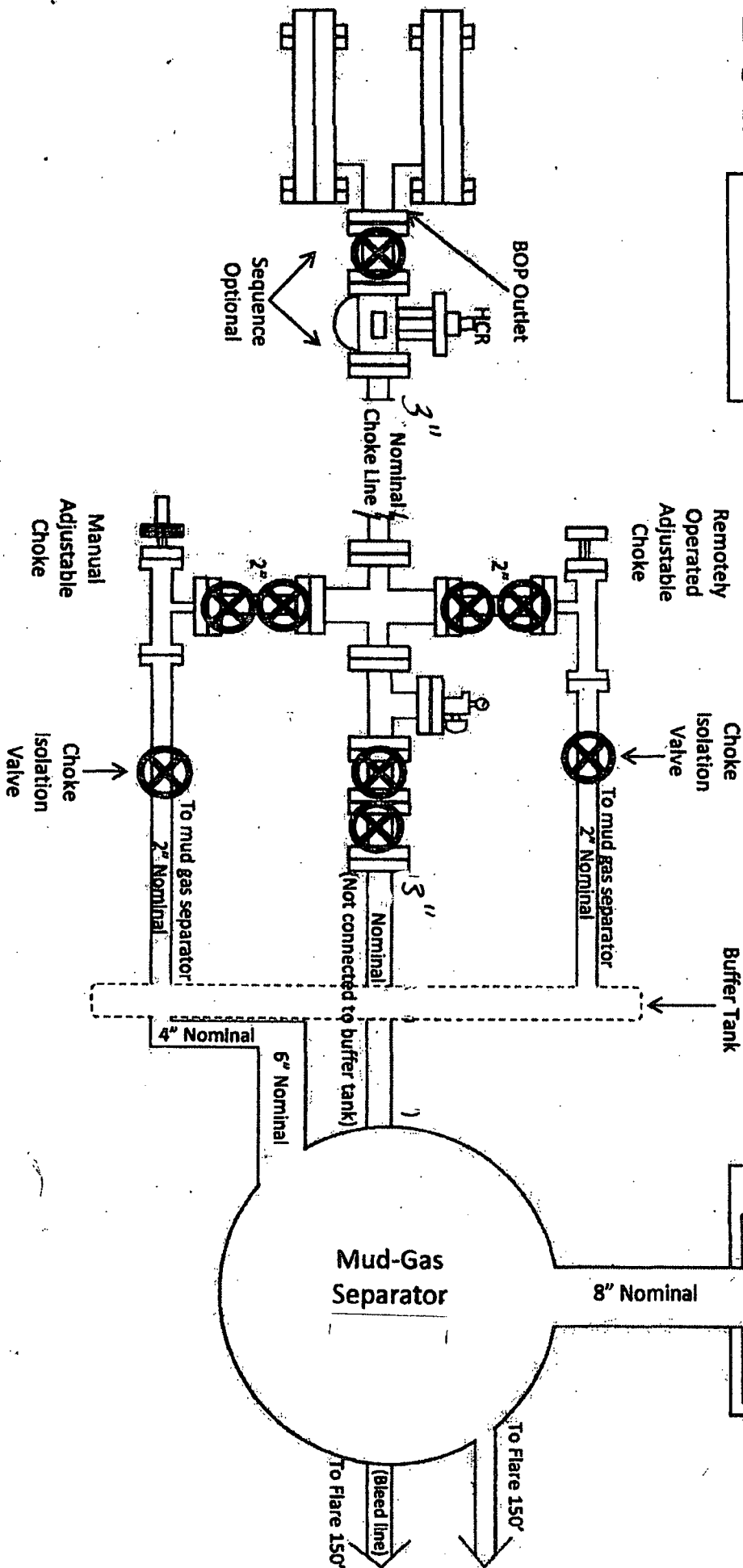
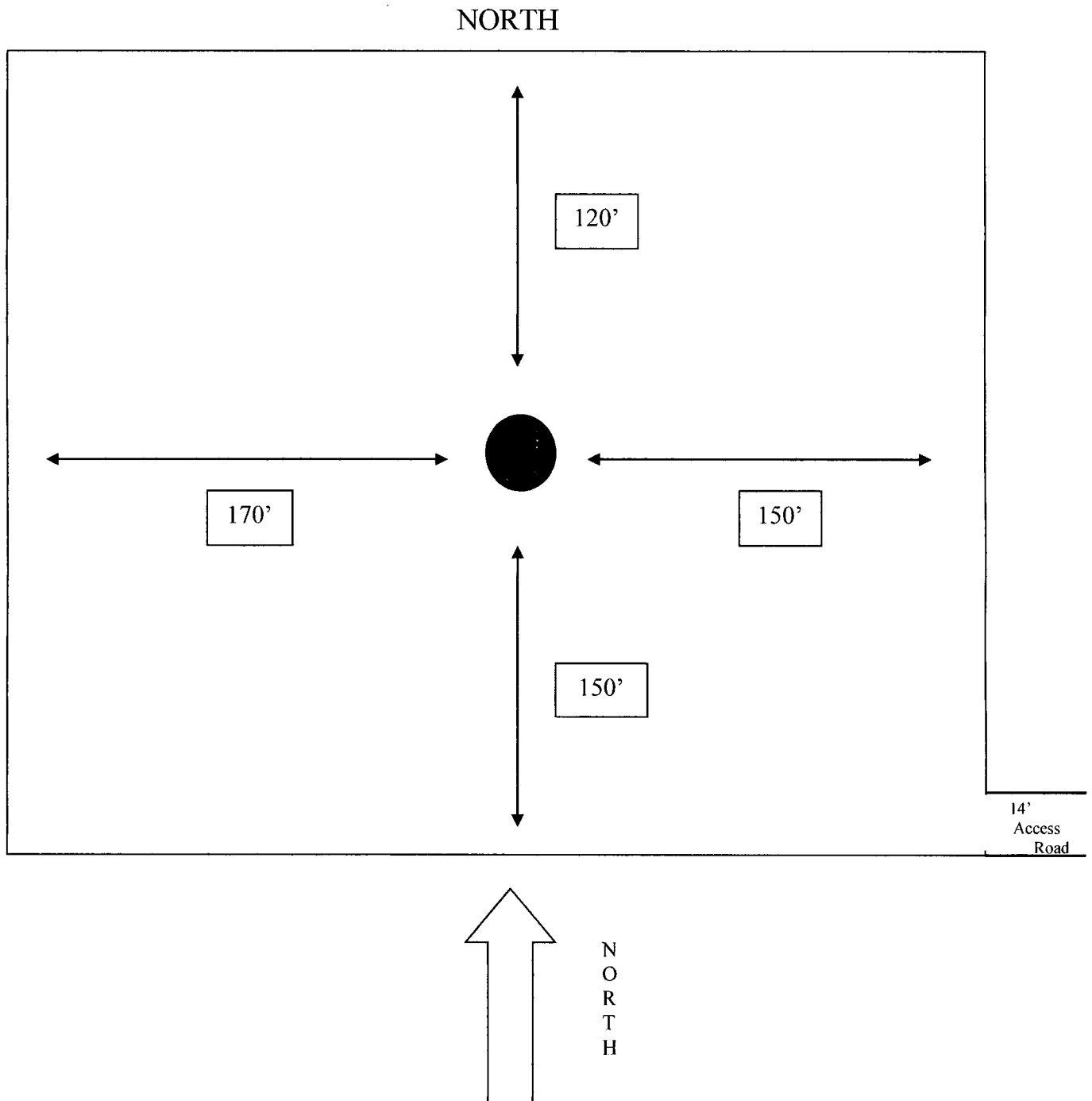
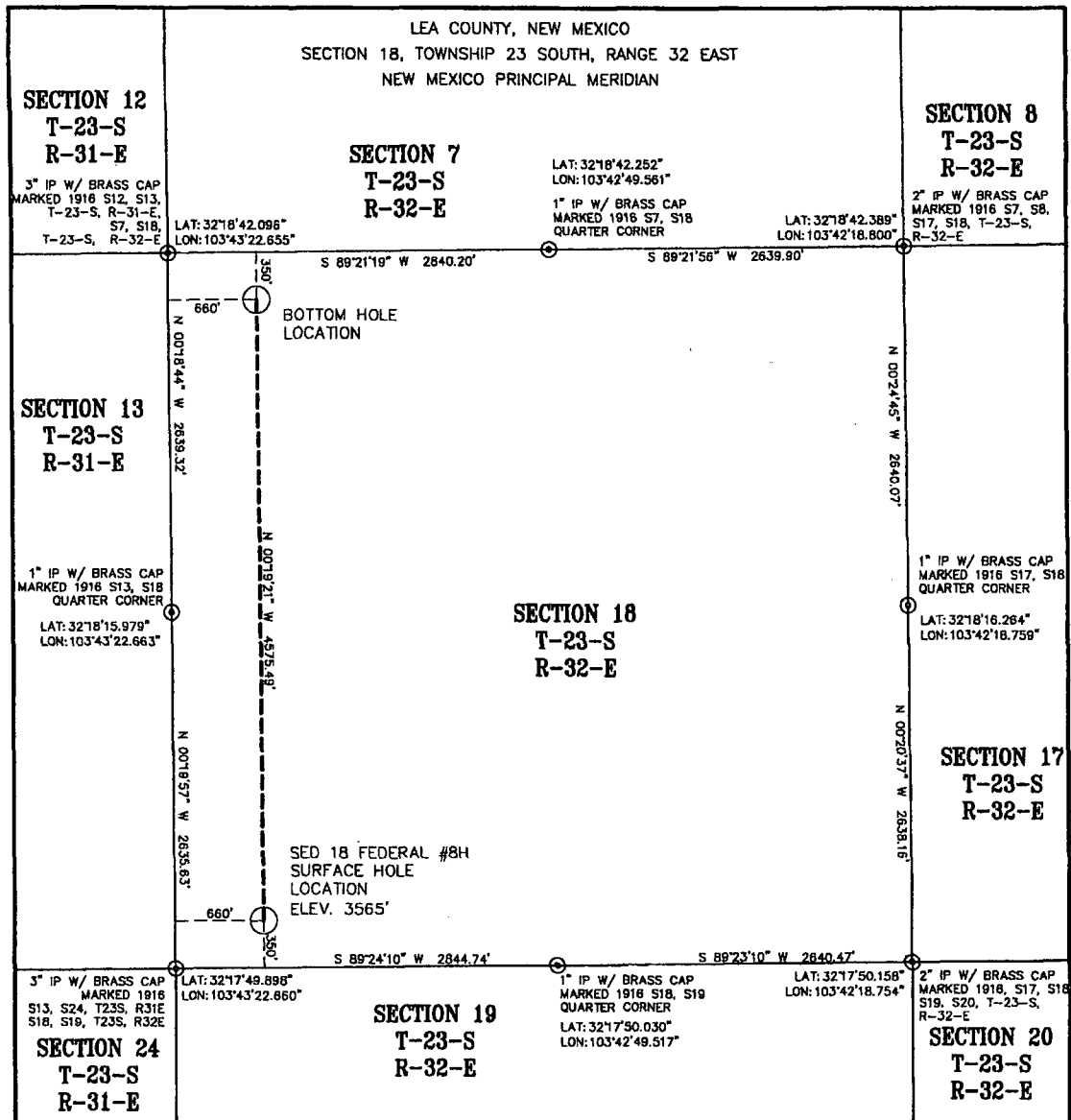


EXHIBIT D

Rig Plat Only
SDE 19 FED 6H
V-DOOR EAST





APPROXIMATELY 30.9 MILES SOUTHEAST OF CARLSBAD, NEW MEXICO

SURFACE LOCATION:

NAD 83, NEW MEXICO EAST ZONE COORD'S
OF THE SED 18 FEDERAL #8H: N(Y)= 472745.4', E(X)= 730592.2'.
NAD 27, NEW MEXICO EAST ZONE COORD'S
OF THE SED 18 FEDERAL #8H: N(Y)= 472685.8', E(X)= 689408.9'.
WGS84, LATITUDE & LONGITUDE OF THE SED 18 FEDERAL #8H:
LAT= N 32°17'53.393", LONG= W 103°43'14.971".

BOTTOM HOLE LOCATION:

NAD 83, NEW MEXICO EAST ZONE COORD'S
OF THE SED 18 FEDERAL #8H: N(Y)= 477320.8', E(X)= 730568.5'.
NAD 27, NEW MEXICO EAST ZONE COORD'S
OF THE SED 18 FEDERAL #8H: N(Y)= 477261.1', E(X)= 689383.4'.
WGS84, LATITUDE & LONGITUDE OF THE SED 18 FEDERAL #8H:
LAT= N 32°18'38.669", LONG= W 103°43'14.966".

NOTE: BOTTOM HOLE LOCATION SHOWN HEREON WAS PROVIDED BY XTO ENERGY, INC. SURFACE HOLE LOCATION IS BASED ON A STAKED LOCATION.

1000 500 0 1000



SCALE 1" = 1000'
GRID

LEGEND:

- WELL
- IRON PIPE FOUND (IP)



I hereby certify that the foregoing description and plat attached hereto is a representation of a survey completed on the ground under my supervision and is true and correct to the best of my knowledge and belief.

6/19/12
DATE

W.D. WATSON, JR.

NEW MEXICO P.L.S. No. 3959

John F. Watson & Company

LAND & DEVELOPMENT SERVICES
PROFESSIONAL LAND SURVEYORS

100 N. Lomas, Suite 220
Midland, Texas 79701
jwatson@jvwandc.com

Your Partner for Responsible Development

Watson Professional Group Inc

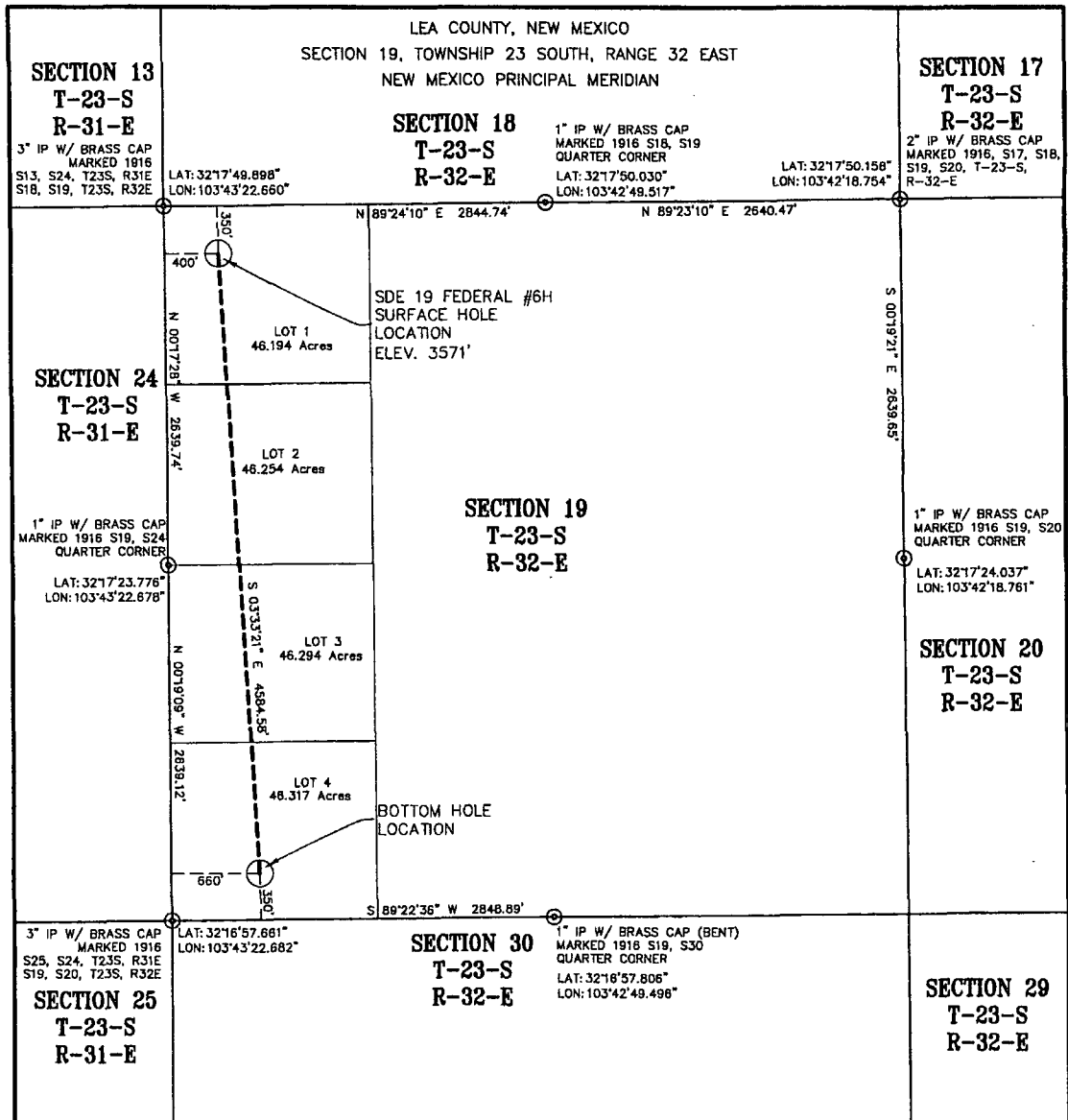


P.O. DRAWER 11186
MIDLAND, TEXAS 79702
(432) 520-8200
FAX (432) 520-9212
jwatson@wpgp-us.com

CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS

XTO ENERGY, INC.
SDE FEDERAL #8H
680' FWL & 350' FSL
SECTION 18
T-23-S,
R-32-E,
LEA COUNTY,
NEW MEXICO

FILE -
JED Map 13-0114
FIELD BOOK JO 100/30
DRAWN BY IP
CDD BY JFW/JP
FILED BY SURVEYOR CO.
T-23-S, R-32-E, LEA CO.
PAGE 1 OF 1



APPROXIMATELY 30.9 MILES SOUTHEAST OF CARLSBAD, NEW MEXICO

SURFACE LOCATION:

NAD 83, NEW MEXICO EAST ZONE COORD'S
OF THE SDE 19 FEDERAL #6H: N(Y)= 472042.6', E(X)= 730336.1'.
NAD 27, NEW MEXICO EAST ZONE COORD'S
OF THE SDE 19 FEDERAL #6H: N(Y)= 471983.1', E(X)= 689152.8'.
WGS84, LATITUDE & LONGITUDE OF THE SDE 19 FEDERAL #6H:
LAT= N 32°17'46.453", LONG= W 103°43'18.001".

BOTTOM HOLE LOCATION:

NAD 83, NEW MEXICO EAST ZONE COORD'S
OF THE SDE 19 FEDERAL #6H: N(Y)= 467466.9', E(X)= 730620.5'.
NAD 27, NEW MEXICO EAST ZONE COORD'S
OF THE SDE 19 FEDERAL #6H: N(Y)= 467407.4', E(X)= 689437.0'.
WGS84, LATITUDE & LONGITUDE OF THE SDE 19 FEDERAL #6H:
LAT= N 32°17'01.158", LONG= W 103°43'14.993".

NOTE: BOTTOM HOLE LOCATION SHOWN HEREON WAS PROVIDED BY
XTO ENERGY, INC. SURFACE HOLE LOCATION IS BASED ON A STAKED
LOCATION.

1000 500 0 1000



SCALE 1" = 1000'
GRID

LEGEND:

- WELL
- IRON PIPE FOUND (IP)



I hereby certify that the foregoing description and plat attached
hereto is a representation of a survey completed on the ground
under my supervision and is true and correct to the best of my
knowledge and belief.

9/12/12
DATE

W.D. WATSON, JR.

NEW MEXICO P.L.S. No. 3959

John F. Watson & Company

LAND & DEVELOPMENT SERVICES
PROFESSIONAL LAND SURVEYORS

200 N. Lomaize, Suite 220
Midland, Texas 79701
jwatson@jfwatson.com
off. (432) 520-2400
fax. (432) 520-2404
mob. (432) 528-0074

Your Partner for Responsible Development

Watson
Professional
Group Inc



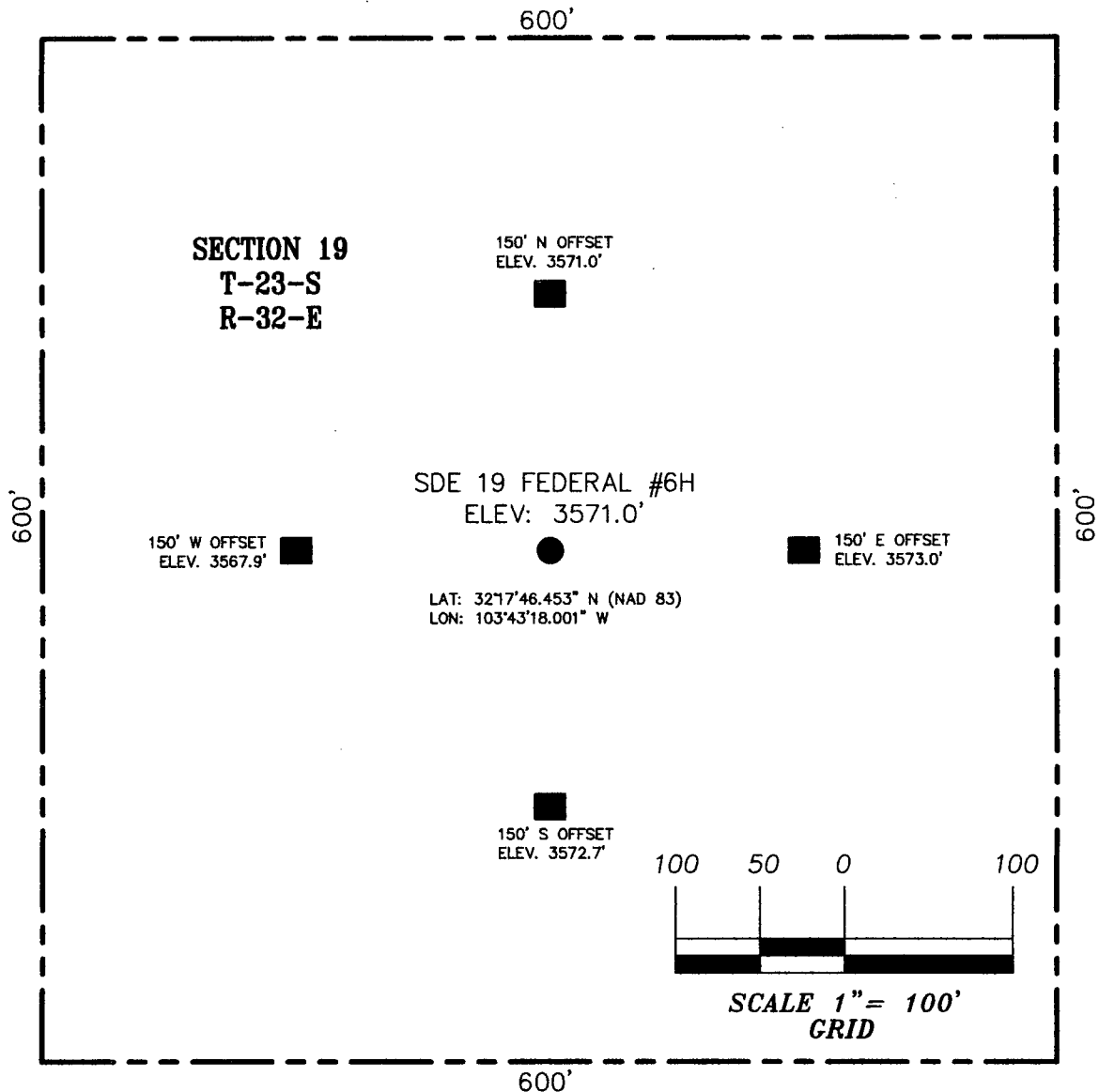
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79702
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jdwatson@jfwatson.com

CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS

XTO ENERGY, INC.
SDE 19 FEDERAL #6H
400' FWL & 350' FNL
SECTION 19
T-23-S,
R-32-E,
LEA COUNTY,
NEW MEXICO

RETR 03-10-2012
400' FWL 18-01-20
FIELD CORNER 40 110/21
BRANCH 071 12/17
GRID 071 071/20
FIELD SURVEYOR (S)
T-23-S, R-32-E, LEA CO.

LEA COUNTY, NEW MEXICO
SECTION 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
NEW MEXICO PRINCIPAL MERIDIAN



DIRECTIONS TO LOCATION

BEGINNING at the intersection of U.S. Highway 128 (Jal Highway) and a paved road (Red Road),

THENCE North along said paved road a distance of 1.7 miles to a caliche road,

THENCE East along said caliche road a distance of 0.3 mile to a curve in said caliche road,

THENCE Southeast along said caliche road a distance of 0.8 mile to an intersection in said caliche road,

THENCE North along said caliche road a distance of 0.5 mile to a curve in said caliche road,

THENCE Northeast along said caliche road a distance of 0.3 mile to an intersection in said caliche road,

THENCE North along said caliche road a distance of 0.8 mile to a caliche road to a caliche well pad (SDE 19 FEDERAL #5H),

THENCE West along said caliche road and said caliche well pad a distance of 495 feet to the northwest corner of said caliche well pad, SDE 19 FEDERAL #6H is 215 feet Northwest.

John F. Watson & Company

LAND & DEVELOPMENT SERVICES
PROFESSIONAL LAND SURVEYORS

200 N. Loraine, Suite 220
Midland, Texas 79701
jwatson@windearthwater.com

off. (432) 520-2400
fax. (432) 520-2404
mob. (432) 528-0074

Your Partner for Responsible Development

Watson
Professional
Group Inc



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MIDLAND, TEXAS
79702
(432) 520-9200
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CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS

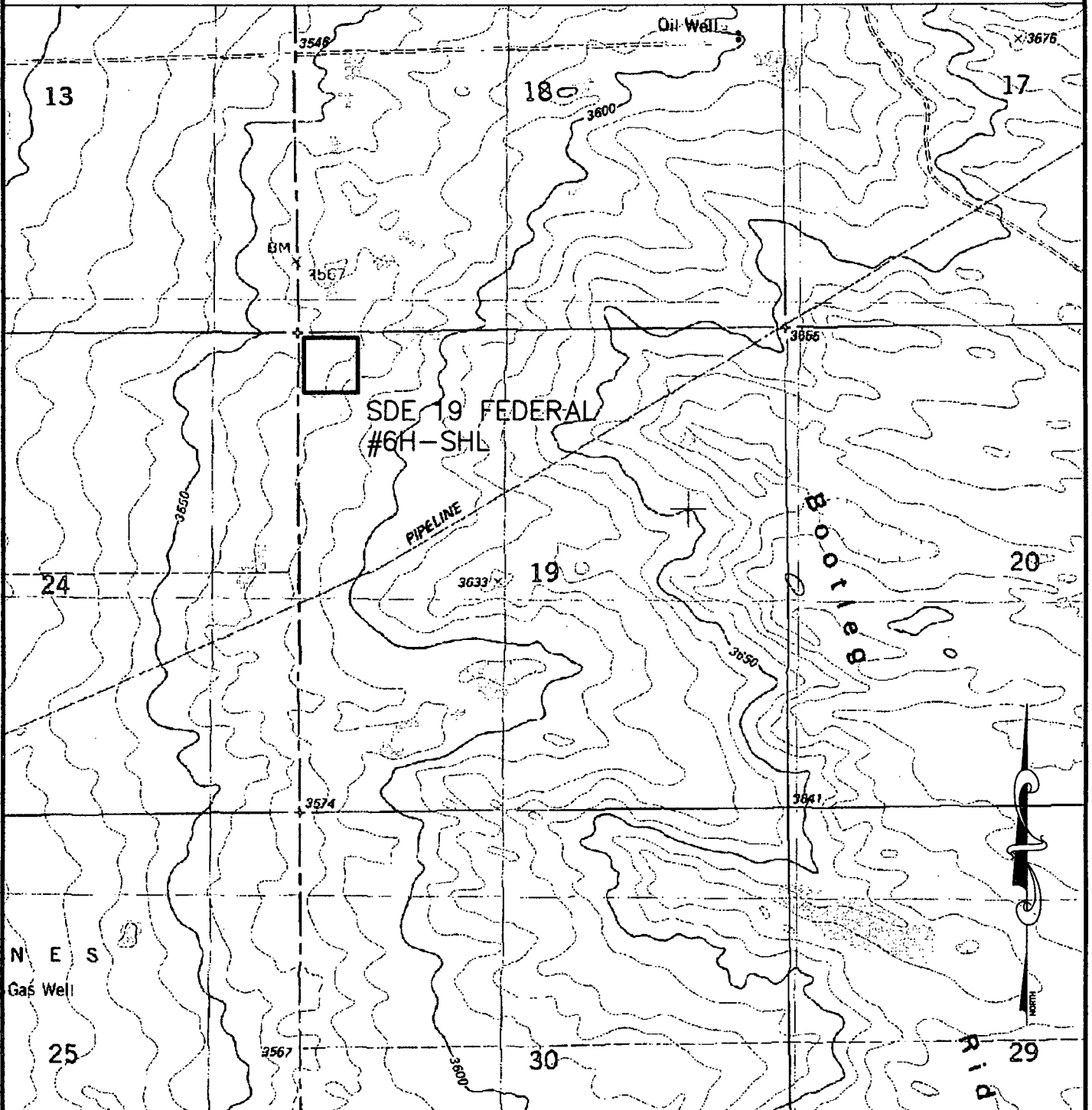
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NEW MEXICO

DATE: 05/22/2012
JOB No.: 12-0130
FIELD BOOK: JC 110/21
DRAWN BY: WLV
CHK BY: JFW/MP
FILE: 243012/LEA CO.
T-23-S, R-32-E LEA CO.

PAGE 1 OF 1

LOCATION VERIFICATION MAP

LEA COUNTY, NEW MEXICO
SECTION 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
NEW MEXICO PRINCIPAL MERIDIAN



USGS QUAD MAP:
MALJAMAR

NOT TO SCALE

John F. Watson & Company

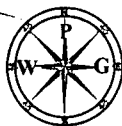
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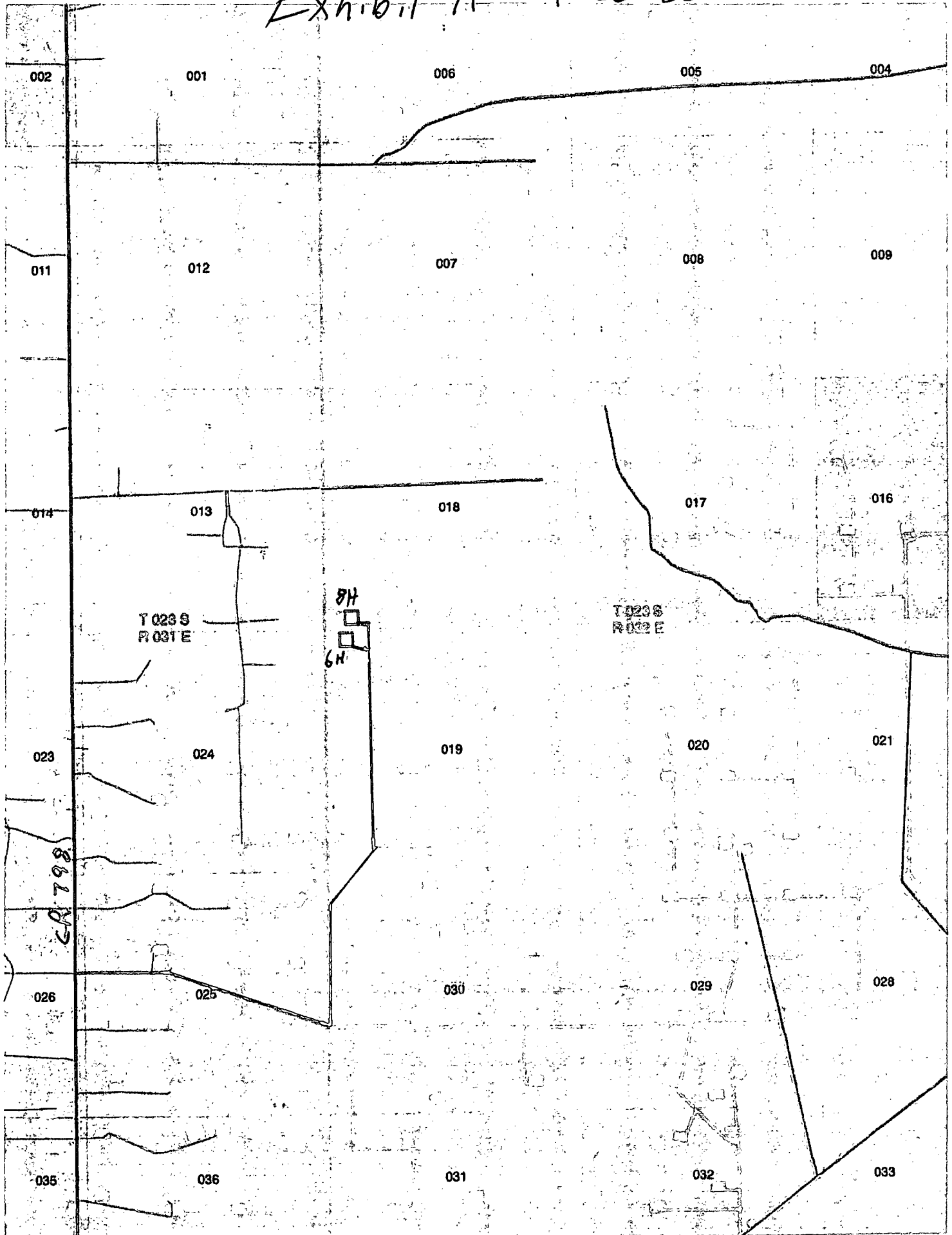
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PAGE 1 OF 1

Exhibit A Access



$2'' = 1 \text{ mile}$

